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FOREWORD

It is with great pleasure that I present to you the following Proceedings of the International Conference on Urban Planning ICUP2016, held in Nis on November 18-19, 2016. This is the first conference organized by the Faculty of Civil Engineering and Architecture, University of Nis and Urban Planning Cluster, with the aim of bringing together scholars, researchers and students from all areas of Urban Planning.

The ICUP conference explores a broad spectrum of Urban and Spatial Planning issues from both theory and practice. Some of the topics that we are focusing on this year include sustainable development, urban regeneration, urban design, land readjustment, public-private partnerships in urban development, urban management, knowledge-based urban development, smart cities, architectural heritage and various current problems of planning and development. These topics are discussed in more than 40 conference papers from various study areas and diverse places in the world, and therefore provide a valuable insight into contemporary urban policies and approaches. They also make good grounds for discussion at the conference and a good basis for further research. The authors are professors, researchers, PhD students and planning professionals. We are especially proud of our keynote speakers and the members of our Scientific Program Committee, who are eminent experts in their fields from all over the world.

Urban structure is a complex and multidimensional system that is prone to change. Therefore, it requires to be closely monitored by continuous research, which brings up some entirely new issues or sheds new light on the old ones. Given the importance of the planning topics elaborated at the conference and numerous questions that are raised here, we firmly believe that it is our task to continue exploring this matter. Hence, we are striving for the ICUP conference to have a biennial character in the future, and establish itself as a traditional manifestation of the University of Nis.

I take this opportunity to thank all of the authors and co-authors of papers, reviewers, keynote speakers, members of the Scientific Program Committee, as well as teachers and associates engaged in the technical preparation of these Proceedings. And finally, I am pleased to invite all authors from the academic and research community to participate and give their scientific and professional contributions to the future Conferences, for the benefit of all of us.



Petar Mitkovic, PhD, Full professor
Faculty of Civil Engineering and Architecture, University of Nis
Chairman of the Scientific Program Committee

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The contents of the papers presented in this publication are the sole responsibility of their authors and can in no way be taken to reflect the views of the Organizer.

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TRANSFORMATION OF A CITY BLOCK FROM THE TRANSITIONAL PERIOD IN BANJA LUKA

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ABSTRACT

Social and economical changes that happened in period of post-socialist transformation left their marks in urban environment. Results of these changes are visible in inarticulate city block transformations. This work examines from morphological aspect, transformation of a typical city block from the period of transition, based on previously determined criteria and timeline. A city block in Banja Luka is chosen for a case study. Research goal is to define guidelines for further research of this issue, as well as establishing conceptual model type of city block whose parameters could be included in future city planning.

Keywords: city block; transition; morphology; transformation; urban regeneration

1. INTRODUCTION

On a global level, as a result of powerful changes in social life of urban communities, cities are experiencing a dynamic urban transformation. The discrepancy between developed and undeveloped world is a new level of segregation of urban phenomenon which includes not only economical, but also political and socio-cultural development factors. On one hand, cities in the developed world are facing stagnating urbanization process and constant qualitative development. On the other hand, cities of undeveloped world face dramatic (uncontrollable) quantitative development and pose a threat to sustainable development on a global level.

Urban phenomenon of a city in transition is recognizable in urban-morphological layers of cities in East and South-east Europe. Urban transformation was strongly influenced by social phenomenon (social and economical restructuring) and social processes manifested directly in space (war destructions, migration of population, etc.), leaving behind permanent changes in urban environment.

It is evident that every important change in economical organization of society, social stratification, technological innovations cultural patterns and political systems leave their marks on the urban pattern. With the process of acceleration on all of the above mentioned levels, in the last couple of decades urban analysts use the term cities in transition, which implies a broad spectre of qualitatively various changes: changes in city in developed capitalist countries, marked by the transition from industrial to post-industrial economy and significant restructuring of these lands of prosperity; changes in cities of the countries that are known as “the outskirts” of the capitalist system, which in the process of globalization are becoming industrial centres on a global level, as well as the cities in post-socialist countries that are also affected by multiple changes. Furthermore, it could be said that there are three types of changes in the cities: the transformation of basic organizational principles of social system; the social and city restructuring, linked to the unfinished modernization (in comparison to the developed world) and change that implies inclusion in the global division of labour and power on modified socio-economical grounds (Petrovic, 2000).

Sasha Tsenkova points out that strategic planning in post-socialist countries can be the answer to economical, social and spatial changes caused by the transition, because it gives the necessary participatory framework for

decision making and management of land use, with appropriate master plans. It is considered that this can create an adequate city management strategies and promote better understanding of contemporary urban issues, sustainability, economic vitality and life quality (Tsenkova, 2003).

Cities, in their general development trajectories, are becoming a part of global process of urbanization, whose laws are transposed to local socio-economical activities, cultural patterns and urban environment. Consequently, it is evident that the complex changes in every aspect of society in transition have made its impact in the urban environment. Meanwhile, contemporary urban planning aims to meet the needs and expectations of society in this regard, to harmonize urban development, using available methods and techniques on an underdeveloped model of contemporary urban planning (Milojevic, 2015).

On the other hand, according to architectural and urban planning theories after the 1960s, city as a complex system with city blocks that represents urban entity which, with street network, is the most resilient to changes of urban structure through time (Jacobs, 1992 (1961); Kostof, 1999, 2005; Alexander, 1977, 1987; Krier, 1979, 1991). M. R. G. Conzen, one of the founders of typo-morphological research in England, commenting on the elements of the complex phenomenon of urban form, claimed that historical and morphological characteristics of a city block are its place in the hierarchy of urban structure elements and possibilities of transformations and adjustment to changeable requirements over time (Conzen, 2001).

Typo-morphological research, based on establishing a connection between architectural typology and urban morphology, has its roots in Italy, in the work of Severio Muratori and Gianfranco Caniggia, and in France in the works of Castex, Depaule and Panerai. The newest research is based on these theories, and find that the connection between the street network, city blocks and physical structure are the key determinants for guidelines for future development. The “agony” of spatial organization of a city block, defined as a “particularity of a classical European town changed by 19th, abolished by the 20th century”, is shown by the above mentioned Castex, Panerai and Depaule, in their work about morphological and typological spatial models of a city block as a spatial unit in the context of a town. They emphasize the danger of separation between architecture and urbanism, pointing out that then the objects don’t communicate with urban environment (Castex *et al.*, 1980.).

This paper deals with the issue of transformation of blocks in cities in transition that are faced with complex requirements of a society in every aspect of human activity. This is followed by a series of problems in creation of an urban space, from defining goals of urban development and management policy to planning and landscaping. The case study is a city of Banjaluka.

Having in mind the complexity of the phenomenon of urban form of the block, the focus is on morphological and morphogenetic aspect, giving a comparative analysis of cross-sectional situation in order to follow the morphogenesis.

2. DEVELOPMENT (TRANSFORMATION) OF A CITY BLOCK

2.1. Monitoring criteria for city block transformation

According to Conzen’s interpretation of the elements of the complex phenomenon of urban form, historical and morphological characteristics of a city block are analyzed, as well as the possibility of transformation and adjusting to the changing requirements over time. As a founder of typomorphologic research in England, and as a geographer and city planner, Conzen bases his research on three following components: the plan of the city (cartographic manifestation of physical representation), city tissue (groups of buildings and open spaces) and the land use. Severio Muratori (1960) deals with two basic hypotheses in his work. First, he claimed that city structure can be understood only through its historical continuity. The second hypothesis stating that the typology and the built form are the foundations of the urban form. When it comes to typological approaches which aim to find the fundamental principles for area classification, Christopher Alexander (1977) with his “pattern language” defined the instruments for urban planning and design, by reducing to types with a precise number of key properties. Cliff Moughtin (1992) in his research concludes that it is possible to observe the connection between the public and the private through the connection between the street and the city block, as well as the built and the unbuilt. In that context, he observes that the indicative rates of accessibility and flexibility that a street network offers to the user, represents the model of city blocks.

The common feature of the listed approaches is the fact that they are taking into account time, form and size when considering town’s space and landscape. City space goes through the process of continuous change

under the influence of social and economical conditions of construction, use and space transformation (Djokic, 2009).

In accordance with the above mentioned, this work will use several criteria for monitoring the transformation of a city block, i.e. the changes they face in certain time period: size and shape of the block, block streets, number of lots, type of buildings, occupancy index, construction index and number of floors.

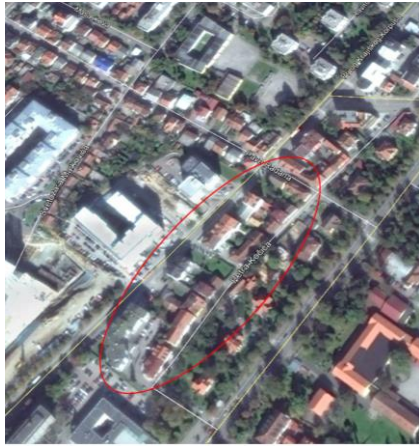
The most of the blocks in the central part of Banja Luka and suburban area are semi-open, medium sized and large blocks. Average size of the block in the central part of the town range from 0.5ha to 2ha and from 2ha to 5ha. In suburban areas blocks range from 0.8ha to 3ha, or from 5ha to 10ha. In this area the urban matrix is mostly orthogonal. Shapes and sizes of the lots are largely conformed to Conzen's parceling system. Lots with narrower fronts and longer sides are prevalent and blocks usually contain several elongated lots. Therefore, rectangular blocks are prevalent which offers bigger possibilities for the development of the frontal parts of the lots. According to Conzen's terminology, the front part of the lot, which is in the direct contact with the street is usually occupied by a dominant building – "dominant lot", while the back part of the lot is of lower significance and usually doesn't have contact with the street and is mostly used as a garden or eventually for outbuildings. In his interpretation of lot development cycles, Conzen describes situations in which, in accordance with intensive land use, growing occupancy and construction index, there is a need for changing lot boundaries and lot merging, in order to allow building of bigger buildings. Another possibility is to change the nature of the buildings in the back part of the lot which can lead to splitting one lot into several smaller. The type of the buildings is another important criteria in research. The central part of the city is dominated by buildings that, in average have three to six floors in a densely build urban tissue. The contact area is still dominated by free standing individual structures, with a maximum of two floors, but there is an increased number of blocks that are constantly transforming, resulting in structures in a row, next to the street front (edge type build). There are individual cases of buildings with interior courtyard. In the central part of the city, in accordance with the densely built matrix, the occupancy index is higher than the construction index, having in mind that in this area is largely filled with lower buildings inherited from a different period, marked by lack of free space. The situation is reversed in the contact areas, since the construction of residential buildings with much more floors is intensifying. The transformation of high number of blocks is in progress. From blocks dominated with individual buildings, to blocks with high occupancy and construction index.

2.2. Review of the criteria in case study

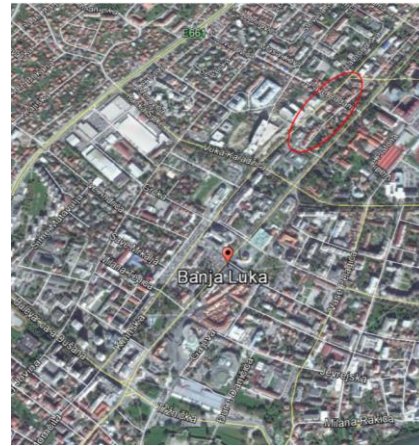
The city of Banja Luka and its city block that was transformed several times in the transition period is chosen to be the case study.

Substantial reconstructions and development of Banja Luka started after the war in 1990s. As a result of a new spatial policy, the reconstruction process is followed by private investments, i.e. new construction requests and more intensive use of the city space. The lack of local and national mechanisms that would control the activity in the field of planning and landscaping, as well as the strong inflow of private capital, created unregulated construction market. Certain spatial interventions occurred in these circumstances, i.e. city blocks that disturbed the ambience, lower quality of life in public and private spaces, which certainly leads to permanent destruction of cultural and architectural heritage and urban identity.

The selected city block is near the city center and it is framed with primary city streets – Pave Radana St., Petra Kocica St. and Prvog Krajskog Korpusa St. (Pictures 1 and 2).



Picture 1: Selected city block
(source: Google Earth - photo taken in 2014)



Picture 2: Position of the block within the town center
(source: Google Earth - photo taken in 2014)

It is a typical example of an individual block transforming from residential to mixed use development with higher occupancy and construction index (Table 1). This transformation is a result of synchronisation of interests and dynamics of particular investors, where the shape of the lot directly affected the urban form. Realisation was succesive, but the physical structure is not incorporated in block horizontally and vertically, as well as to its volume, architectural design and materialization (Pictures 3 and 4).



Picture 3: Street front in Prvog Krajiskog Korpusa St.
(source: Photo made by the Author, 2016)



Picture 4: Street front in Prvog Krajiskog Korpusa St.
(source: Photo made by the Author, 2016)

As a result of successive block transformation, the courtyards of the block has concrete walls on the borders of the lots, instead of communal green spacewith underground parking place (Pictures 5 and 6).



Picture 5: The courtyard of the block
(source: Photo made by the Author, 2016)



Picture 6: The courtyard of the block
(source: Photo made by the Author, 2016)

Street frontin Petra Kocica St. is mainly composed from old, neglected ground floor buildings that have had various extensions without any vertical regulation, design elements or materialization (Pictures 7 and 8).



Picture 7: Street front in Petra Kocica St.
(source: Photo made by the Author, 2016)



Picture 8: Street front in Petra Kocica St.
(source: Photo made by the Author, 2016)

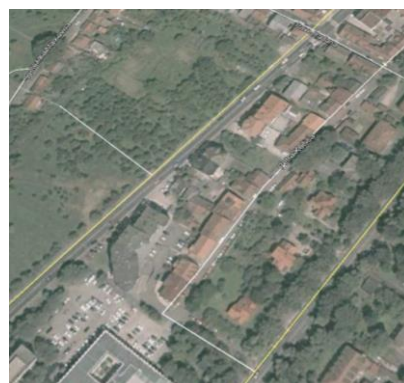
According to the regulation plan from 1996 (Picture 9), the block was built as residential block with individual houses with two floors on in its North-east part, and multifamily buildings with four floors on South-west part, with large communal space for parking.



Picture 9: Regulation plan from 1996 - selected block (Regulation plan for the area between the streets: Vuk Karadzic, Prvog Krajiskog Korpusa, Milan Radman, dr Mladen Stojanovic and kralj Petar 1. Karadjordjevic in Banja Luka; Plan made by "Urbanisticki zavod" Banja Luka, 1996)



Picture 10: Block (source: Google Earth - photo taken in 2002)



Picture 11: Block (source: Google Earth - photo taken in 2006)

According to the picture taken from "google earth" (Picture 10), it is evident that from the moment the Regulation plan was done in 1996 until 2002 there were not any significant changes in the area. This block has got the large percentage of green space, although it is located near the town center.

The Regulation plan from 1996 was changed in 2004 after the Decision of City Assembly, to meet the new needs and adapt to new circumstances in the location. The previous realization of the Plan deviated from planned requirements. Therefore, it was necessary to adjust the resulting situation with the new Plan. Intensification of constructions in this area starts in 2002, reaching its peak after the adoption of the new Plan changes in 2005, as shown on the Picture 11. According to the previously stated principles, i.e. program elements, the new Plan adjusted to the potential investors needs and defined buildings with significant vertical and horizontal dimensions on the small lots (Picture 11).

A public parking space was planned within the lots and the access was defined in contact lots, i.e. more lots use the same access street. This approach proved to be impossible in practice. Along with the over ground parking, an underground public one was planned, in order to satisfy the parking needs of block’s users (Picture 12).

Construction on empty lots in this block is still in progress, since 2006.



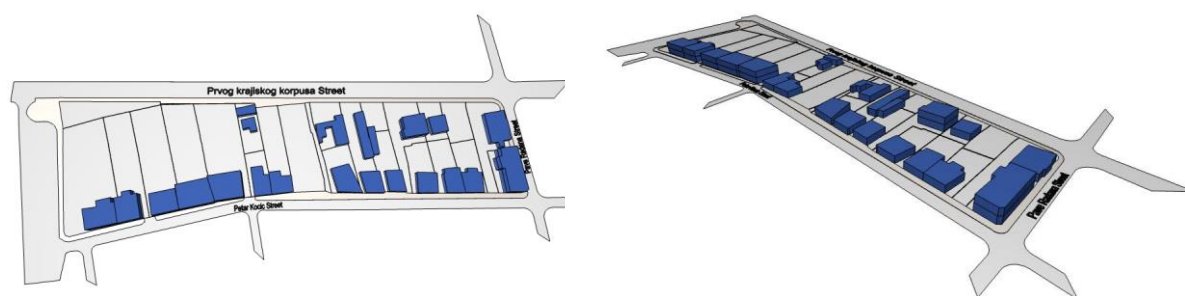
Picture 12: New Regulation Plan from 2005 (Edit the Regulation plan for the area between the streets: Vuk Karadzic, Prvog Krajiskog Korpusa, Milan Radman, dr Mladen Stojanovic and kralj Petar 1. Karadjordjevic in Banja Luka; Plan made by "Stilling" d.o.o. Banja Luka, 2005) - Plan of spatial organization and allotment plan (selected block)

In accordance with all of the above, certain changes of previous parameters (criteria) can be observed in this block (Table 1):

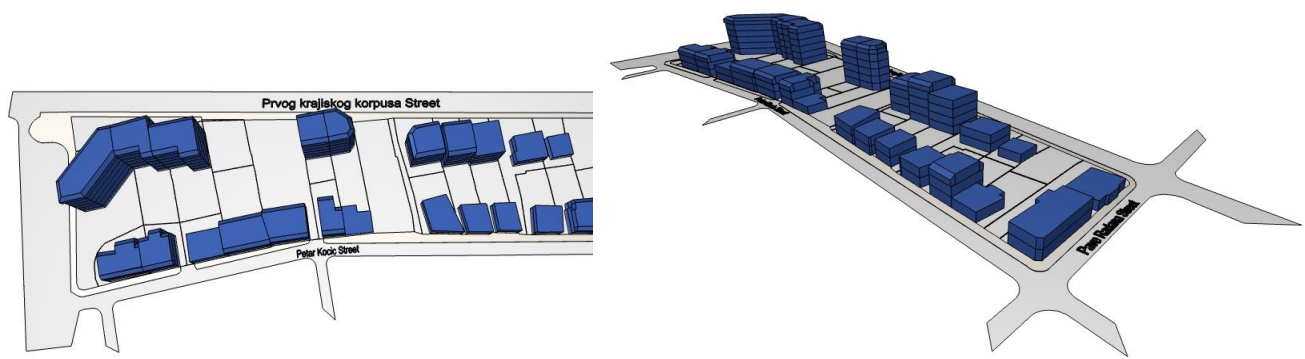
Table 1: Change of urban parameters from 1996 to 2016

<i>time period</i>	<i>size and</i>	<i>number of</i>	<i>number</i>	<i>building</i>	<i>occupanc</i>	<i>constructi</i>	<i>average</i>
<i>from 1996 to</i>	<i>11 800 m²</i>	<i>0</i>	<i>24</i>	<i>free-</i>	<i>0.23</i>	<i>0.33</i>	<i>GF/GF+</i>
<i>from 2002 to</i>	<i>11 800 m²</i>	<i>0</i>	<i>28</i>	<i>free-</i>	<i>0.32</i>	<i>1.10</i>	<i>GF+2+</i>
<i>from 2006 to</i>	<i>11 800 m²</i>	<i>0</i>	<i>47</i>	<i>free-</i>	<i>0.37</i>	<i>1.44</i>	<i>GF+3+</i>

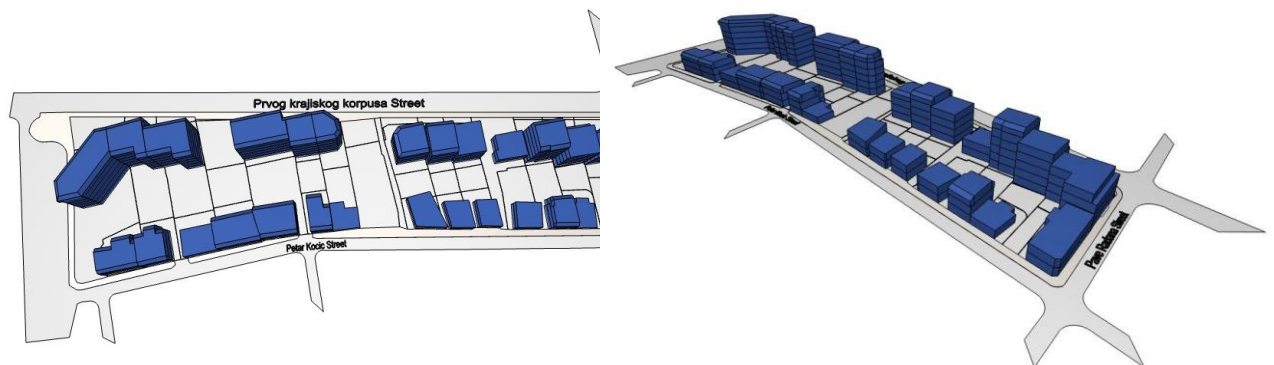
Based on the parameters shown in the Table 1 and Pictures (13, 14, 15) it can be concluded that the selected block experienced major changes in the period from 2002 to 2006, which led to significant increase in occupancy and construction index. Furthermore, the new type of buildings in the block was built. Instead of free standing, with the average of GF+1, there are row of buildings with the average of GF+2+M and the open block type is transformed into semi-open type. From 2006 until today, this tendency continued and the remaining empty lots are filled, which further contributes to the increase of occupancy and construction index.



Picture 13: The city block from 1996 to 2002; Models are made by the Author



Picture 14: The city block from 2002 to 2006; Models are made by the Author



Picture 15: The city block from 2006 to 2016; Models are made by the Author

As shown in the Table 1, there are no new public spaces, although they were planned in the regulation PlanAt the same time the number of lots is increasing. Therefore, existing lots are being fragmented without proper access and there is a significant deficit of parking places.

It is clear that after the regulation changes, there were certain problems in issuing of building permits. Administrative problems, as well as the parking deficiency, led to chaotic use of lots, especially of the inner parts of the block that does not have access from the street. Construction of public facilities, which implies cooperation between public and private investors was not implemented (Table 1).

3. CONCLUSION

In the cities that are in the period of transition there is a tendency for more efficient use of city's construction land, since private capital became the main pillar of development, which led to increase of occupancy and construction index and use of every available vacant area. As a result, partial interventions on a block level in the form of "internal filling" visibly disturbed the appearance, quality of life and functionality in the block and its surroundings.

Therefore, it is necessary to find a way to deal more efficiently with city block transformation in transitional period. The interventions performed on city blocks during the period of transition resulted in number of problems such as loss of urban identity and quality of life. Uncoordinated system of urban regeneration and city planning, as well as partial intervention on city block level pose a big problem to contemporary city in transition, since the ambiance, living conditions and practical use of public spaces are disrupted. Negligence of these values leads to permanent loss of cultural and architectural heritage as well as urban identity, and later to creation of unsustainable urban systems.

Although sustainable regeneration of a city block implies realization of economical, ecological, social and cultural goals, the process of urban regeneration in practice is fulfilled by economical goals. The result of this approach is in neglect of historical, spatial and cultural value of locations, as an active component of material culture and urban memory. Social and cultural factors should be included in the process and historical, social, cultural and spatial urban values should be taken into consideration, since these qualities represent a very important development potential. Establishing the morphogenesis, in the function of preserving identity and

cultural patterns, should contribute to sustainable urban regeneration and improvement in urban identity. In the context of before mentioned issues, it is necessary to ascertain current approaches in the city planning.

Further, research could bring the results that improve the process of urban regeneration of the city in the period of transition. Furthermore, it would be possible to define local urban patterns for more efficient and successful urban regeneration of city blocks.

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